

A Semantic Matching Method of Heterogeneous Geospatial Service Classification Based on the Concept Lattice

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Abstract. With the development of Internet and GIS, many spatial resources and processing functions are provided as services to user, how to find suitable geospatial services classification for the users from the Internet is a crucial task. One of the main challenges is to overcome semantic heterogeneity caused by using heterogeneous catalogue services during the services registry. This paper proposes a semantic matching method for the heterogeneous geospatial service classifications based on the concept lattice.

In this method (shown in *Figure 1*), firstly, we extracted the semantic factors of geospatial services from their description information. These factors include semantic properties such as taxonomy, service type and so on. Then we can build the concept lattice of geospatial services based on the semantic factors. The last step is to compute the semantic similarity among the concept lattices of geospatial service. According to the similarity, the most suitable geospatial service classification is selected out. This method has been proved effectively in matching geospatial services with heterogeneous classification.

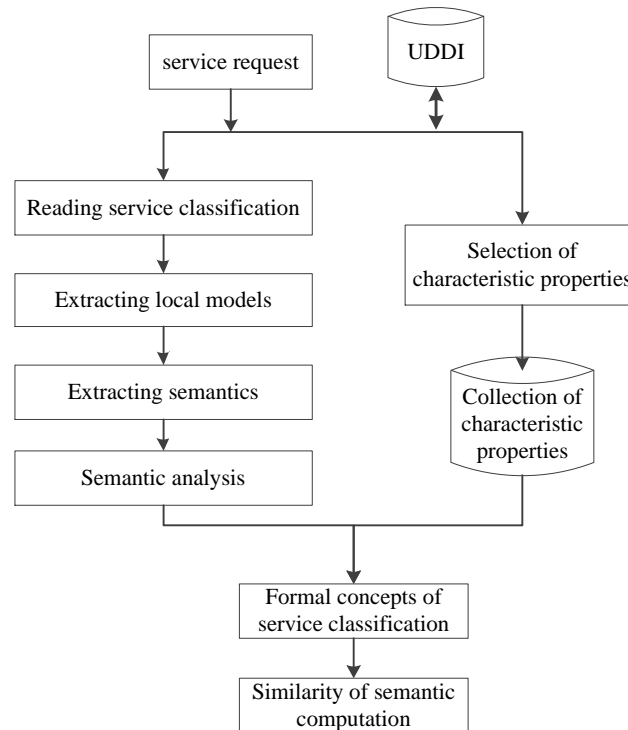


Figure 1. Semantic matching of heterogeneous geospatial service classification.

Keywords: concept lattice, heterogeneous classification, geospatial service, semantic matching

This work was supported by the National High Technology Research & Development Program of China ("863" Program)(No. 2012AA12A402) and Science & Technology Development Plan of National Administration of Surveying, Mapping and Geoinformation (No. A11117).

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